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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,549	02/23/2004	Aiden Flanagan	01-162US2	7760

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EXAMINER

ABOAGYE, MICHAEL

ART UNIT	PAPER NUMBER
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1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/784,549

Applicant(s)

FLANAGAN, AIDEN

Examiner

Michael Aboagye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/23/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 20, 22, 25-29, 38-40, and 44-47 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 and 15-19 of U.S. Patent No. 6,696,667. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed limitation: manufacturing a medical device, wherein the medical device is a stent; wherein the medical device is a catheter; generating a beam of radiation from a radiation source; and directing the radiation beam onto a tubular workpiece by scanning the radiation beam so that a prescribed pattern is cut in the workpiece; wherein the

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scanning galvanometer comprises a first pivotable scanning mirror pivotable about a first axis and a second pivotable scanning mirror pivotable about a second axis, wherein the first and second axes are orthogonal to one another; positioning at least one optical element along an optical path between the scanning galvanometer and the workpiece; translated the tubular workpiece along its longitudinal axis during the step of directing the radiation beam or laser beam; the workpiece is cut by scanning the radiation over a common path a plurality of times, wherein each subsequent scan over the common path removes additional material from the workpiece; wherein the prescribed pattern defines an opening in the tubular workpiece are common features at least shared by the instant application and the U.S. Patent No. 6,696,667. It would have been obvious to one of ordinary skill in the art to have recognized that the first and the second scanning mirrors recited in claims 2, 6 and 19 of the U.S. Patent No. 6,696,667 and the galvanometer as claimed in the instant application are equivalent in terms of directing the laser beam bidirectionally at an angle of 90 °C in the X-Y plane.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 20-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapovalov et al. (US Patent No. 6,563,080) in view of Freedenburg et al. (US Patent No. 5,620,618).

Shapovalov et al. teaches a method of manufacturing a medical device from a work-piece, comprising: generating a beam of radiation from a radiation source, and directing the radiation beam onto the workpiece so that the radiation beam cuts a desired pattern in the workpiece (column 1, lines 36- 43; and column 2, lines 11-24); wherein the workpiece is a tubular "247" (column 2, lines 50-53 and figure 5); redirecting the radiation beam so that it impinges on the circumference of the tubular workpiece (Figure 5); positioning at least one optical element along an optical path between the radiation source and the workpiece (figure 5: (optical elements 240, 220, 215, 214, and 205); wherein the workpiece comprises a biocompatible material, said material being stainless steel; wherein the medical device is a stem (column 1, lines 28-35); wherein the medical device is a catheter (column 1, lines 15-18); wherein the tubular workpiece is translated along its longitudinal axis during the step of directing the radiation beam; wherein the tubular workpiece is rotated about its longitudinal axis during the step of directing the radiation beam; wherein the tubular workpiece is rotated about its longitudinal axis during the step of directing the radiation beam (column 4, lines 27-33; column 5, lines 39-47 and figure 5); wherein the radiation beam is a laser beam; wherein the laser beam is a pulsed laser beam (column 5, lines 23-38, and figure 3d); wherein each subsequent scan over the common path removes additional material from the workpiece; wherein the prescribed pattern defines an opening in the tubular

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workpiece, (note the process of cutting, polishing, engraving and the like removes material and also creates a hole in the stent),(column 2, lines 50-53, and column 6, lines 9-11).

Shapovalov et al. teaches substantially all the elements of the claimed invention, including set of mirrors (240, 220, 215, 214, and 205) positioned along the path of the laser beam between the source and the workpiece for directing the beam onto the workpiece but not expressly teach scanning the beam with a galvanometer or the use of an F-theta lens for generating a flat focal plane before impinging the workpiece.

However, Freedenburg et al. teaches an apparatus and a method of laser machining. The method practiced with the apparatus having a linear scanning galvanometer ("50", figure 7) disposed along the optical path of the laser beam to permit bidirectional scanning of the beam onto the workpiece by scanning the radiation over a common path a plurality of times and cutting, machining or processing the workpiece without interruption (column 13, lines 59-67); a scanner "59" having moving mirrored surface 50, 50' for redirecting a laser beam "125", at an angle of 90 °C in the X-Y plane (column 10, lines 12-15, and figures 5A, 5B); Freedenburg et al. also teaches disposing along the optical path of the laser beam an F-theta lens (flat field telecentric lens) for and also directing the beam such that the center of focus is planar and perpendicular (i.e. 90 °C) to the target at all points along the scan field (column 3, lines 56-67). Note the F-theta lens of Freedenburg et al. includes the conical and elliptical mirrors recited in claims 32 and 33.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have disposed a galvanometer and an F-theta lens along the optical path of the laser beam in the method of Shapovalov et al. as taught by Freedenburg et al. in order to permit scanning the radiation over a common path a plurality of times along the circumference of the workpiece and cutting, machining or processing the workpiece without interruption (Freedenburg et al., column 13, lines 59-67), and also directing the beam such that the center of focus is planar and perpendicular (i.e. 90 °C) to the target at all points along the scan field (Freedenburg et al. (column 3, lines 56-67) thereby permitting the production and machining of micro-components at high output and low defect rates (Freedenburg et al., column 4, lines 5-9).

Response to Arguments

5. The examiner acknowledges the applicants' amendment received by USPTO on January 03, 2007. Claims 1-19 are cancelled, and claims 20-47 are under consideration in this application remain under consideration in the application.

6. Applicant's arguments filed January 03, 2007 have been fully considered but they are not persuasive. The applicant in his own admission affirmed the fact that Freedenburg et al.'s teaching has a broader applicability. However, the applicant argues that Freedenburg et al. reference addresses a very particular problem drawn to integrated circuit and not a medical device, therefore there is no motivation to combine

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with the teaching of Shapovalov et al. The examiner respectfully disagrees with the applicant. Freedenburg et al. not only state the broad applicability of his laser system, he specifically outlines the state of the art of the laser cutting or machining by cited various related prior art including those drawn to electronic devices and medical devices. Regarding the medical devices, US 4,520,816 is cited, which is drawn to ophthalmic application (Freedenburg et al. column 2, lines 1-6). It is clear that the concept of laser cutting, machining and work processing in the medical devices and the electronic devices are related and analogous. It is therefore noted that the references to Shapovalov et al. and Freedenburg et al. can be combined.

Regarding claim 25, the applicant admitted that the radiation beam of Shapovalov et al. impinges on the workpiece circumference at a specific location but does not scan ~~the~~ about the circumference. The examiner made no suggestion of Shapovalov et al. laser system as having a scanner, however work workpiece set to rotate about an axis relative to the laser beam, the work piece is scanned about it's circumference. The deficiency in the system of Shapovalov et al. is the scanner and the disclosure of Freedenburg et al. provides the remedy for said deficiency and that dense park features or patterns or micro cutting or machining can be performing with said laser scanner.

Regarding applicants argument about the conical mirrors, it is noted that the F-theta lens of Freedenburg et al. includes the conical and elliptical mirrors (figure 10, and column ^{13, lines} 9-21.
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Conclusion

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7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Aboagye whose telephone number is 571-272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AM
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Michael Aboagye
Assistant Examiner
Art unit 1725

03/25/2007

KEVIN KERNS
PRIMARY EXAMINER

Kevin Kerns 3/28/07